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ABSTRACT

The invention relates to the use of high-throughput methods for gene targeting, recombination, phenotype screening and biovalidation of drug targets utilizing enhanced homologous recombination (EHR) techniques. These methods utilize robotically driven multichannel pipetters to perform liquid, particle, cell and organism handling, robotically controlled plate and sample handling platforms, magnetic probes and affinity probes to selectively capture nucleic acid hybrids, and thermally regulated plates or blocks for temperature controlled reactions.